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CUT BLANK / CUT BLANK & COAT

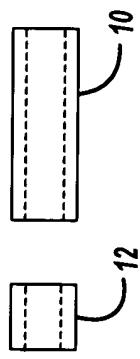


FIG - 1
PRIOR ART

CROP CARRIER END

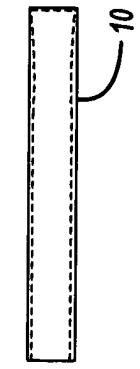


FIG - 4
PRIOR ART

WELD FLANGE

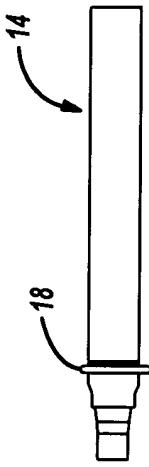


FIG - 7
PRIOR ART

1ST HIT SPDL / EXTRUDE

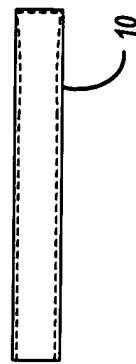


FIG - 2
PRIOR ART

INERTIA WELD

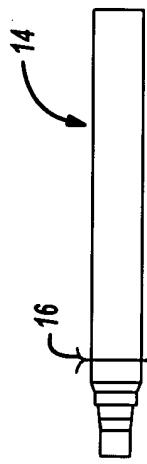


FIG - 5
PRIOR ART

WELD SPRING SEAT

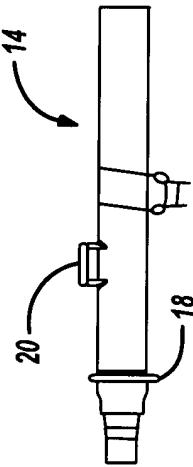


FIG - 8
PRIOR ART

2ND HIT SPDL / CROP SPDL END

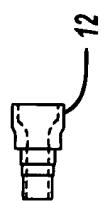


FIG - 3
PRIOR ART

SHEAR RAMS HORN & TEST



FIG - 6
PRIOR ART

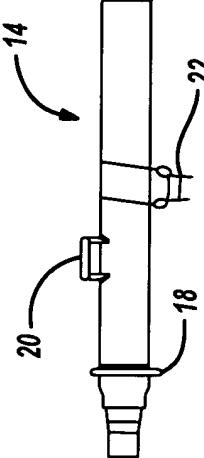


FIG - 9
PRIOR ART

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ANGLE HEAD GRIND BEARING & SEAL

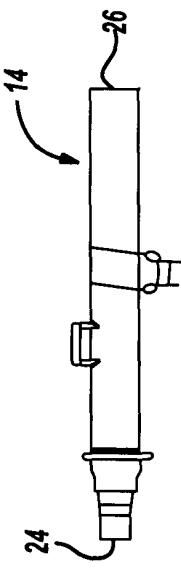


FIG - 15
PRIOR ART

TURN SPINDLE, FLANGE & CARRIE

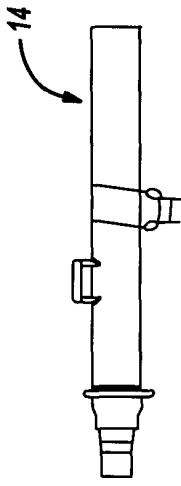


FIG - 12
PRIOR ART

STRAIGHTEN

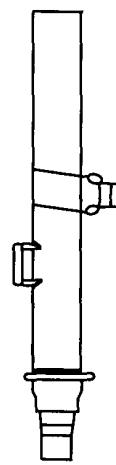


FIG - 10
PRIOR ART

WASH & RUSTPROOF

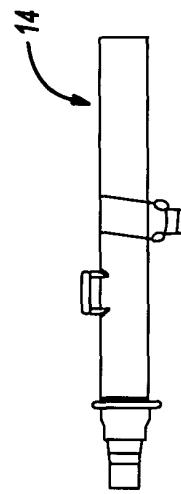


FIG - 16
PRIOR ART

THREAD ROLL, MILL, DRILL

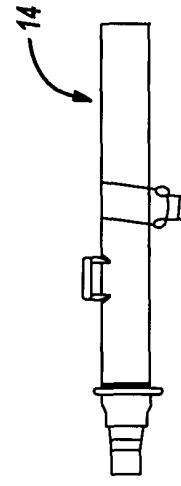
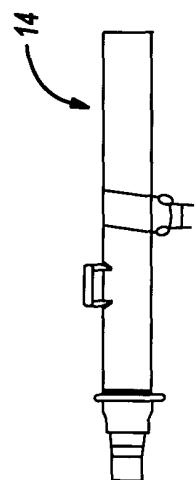


FIG - 13
PRIOR ART

FACE & CENTER



PACK & SHIP

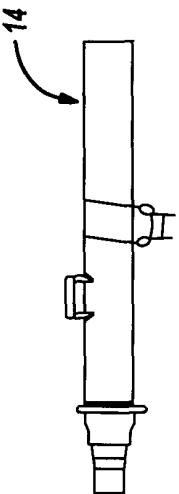


FIG - 17
PRIOR ART

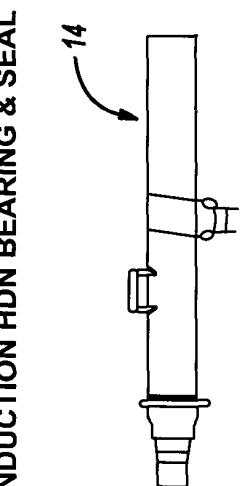


FIG - 11
PRIOR ART

FIG - 18

PRIOR ART

FORGING

1. Cut thick walled tube into two pieces.
1st section to be used to make the housing body.
2nd section to be used to make the spindle. — 50
2. Extrude 1st section into a variable walled elongated form. — 52
3. Warm form 2nd section in a two stage progression to form the spindle blank. — 54
4. Crop the ends of both the 1st and 2nd sections. — 56
5. Friction weld the 1st and 2nd sections back together to complete the axle tube housing blank. — 58
6. Machine off the "rams horn" resulting from the friction welding process. — 60

WELDING

1. Press a forged weld flange onto the axle tube housing blank and fusion weld in position. — 62
2. Position and locate remaining axle tube brackets (spring seat, shock mount, etc.) — 64
3. Straighten tube. — 66

MACHINING

1. Face spindle end of tube. — 68
2. Center spindle end of tube. — 70
3. Face and center rear end of tube (machining datum line is centerline of tube). — 72
4. Turn spindle. — 74
5. Turn weld flange face. — 76
6. Turn carrier press fit OD at rear end of tube. — 78
7. Roll thread. — 80
8. Drill and de-burr holes in weld flange. — 82
9. Finish grind bearing and seal surface, and cut keyway. — 84
10. Wash, rustproof, package and ship. — 86

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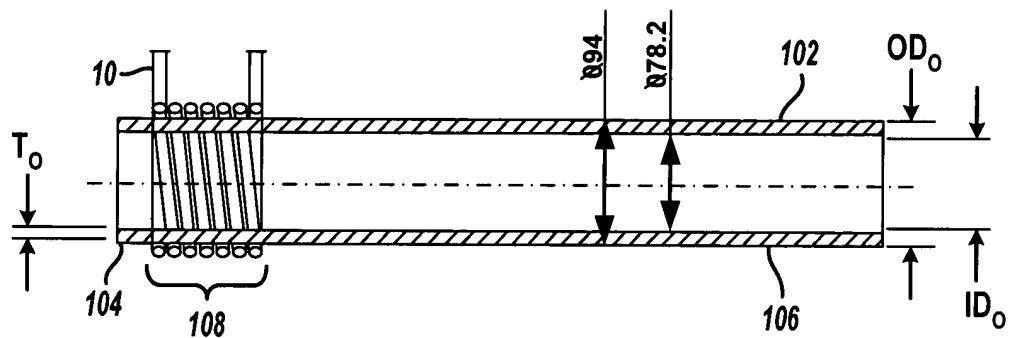


FIG - 19

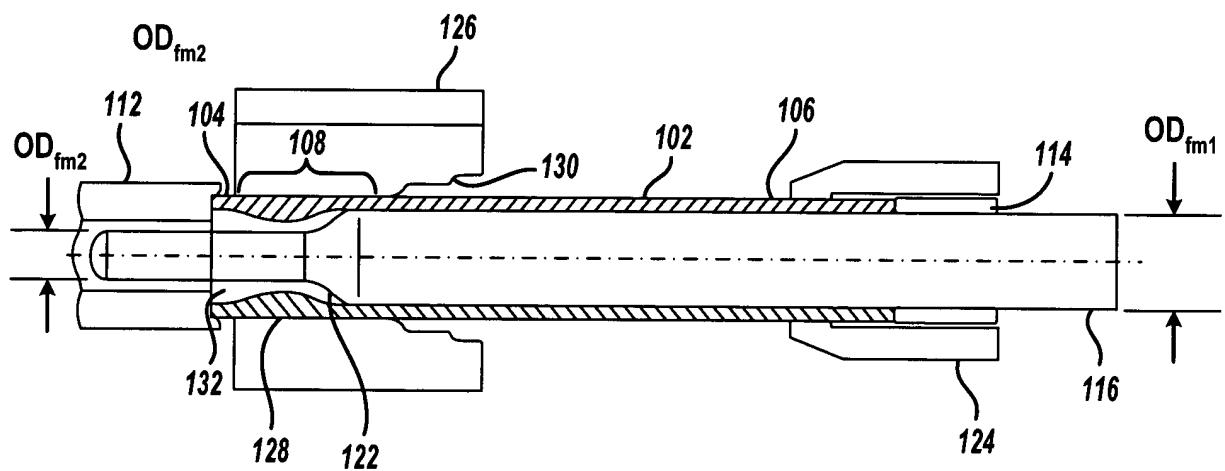


FIG - 20

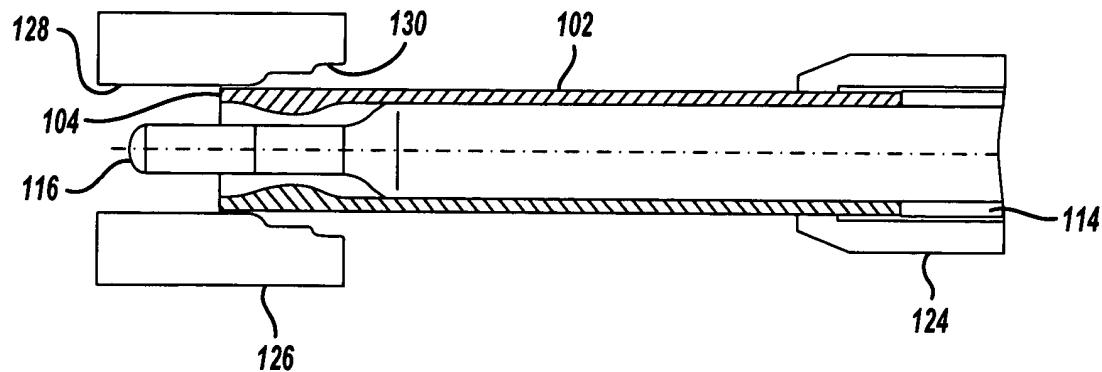


FIG - 21

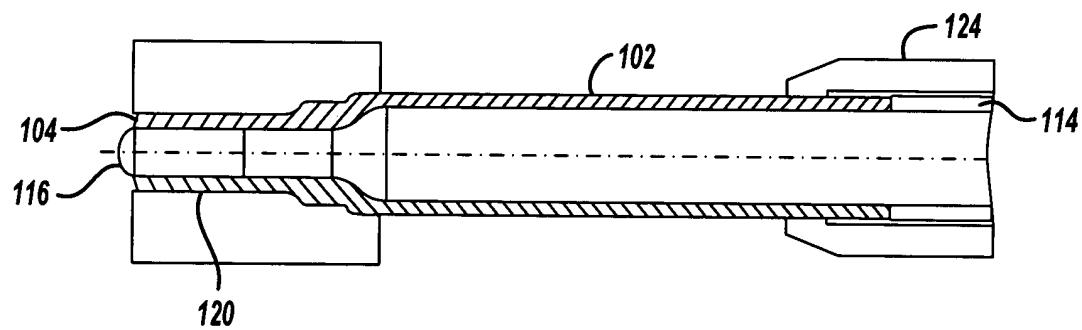


FIG - 22

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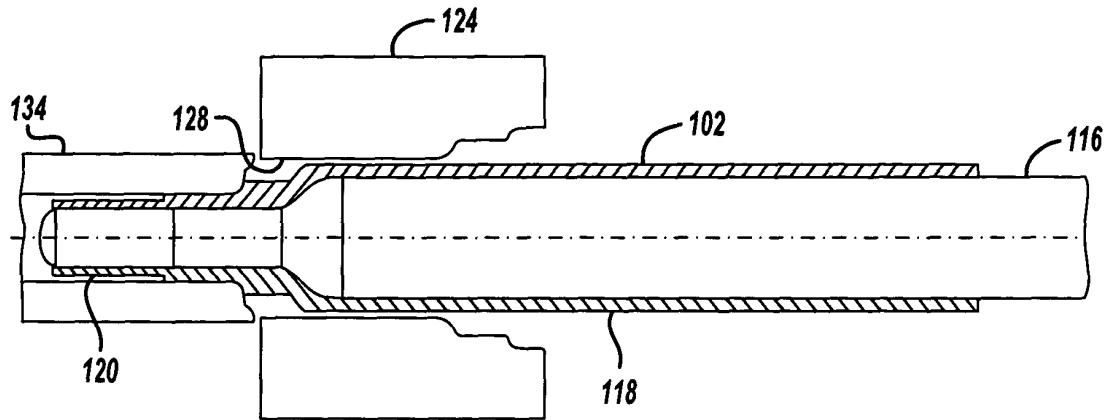


FIG - 23

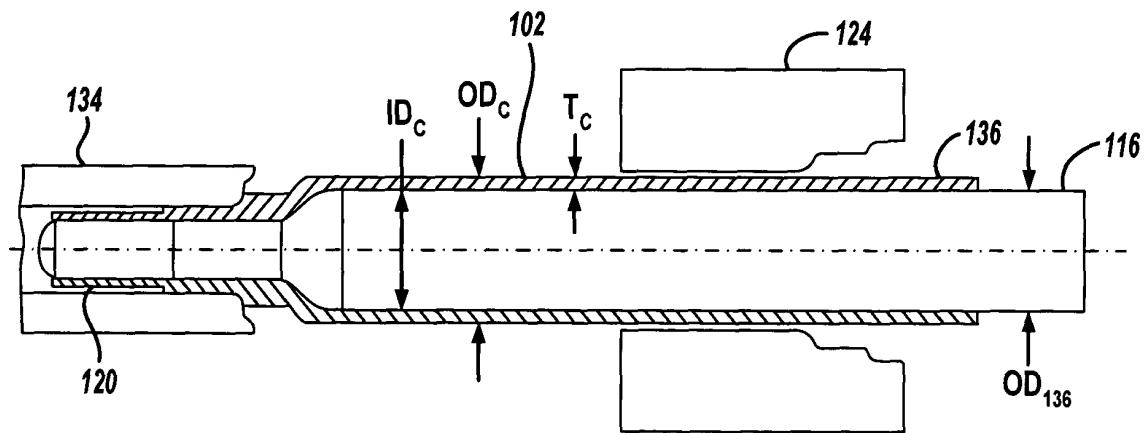


FIG - 24

FIG - 26

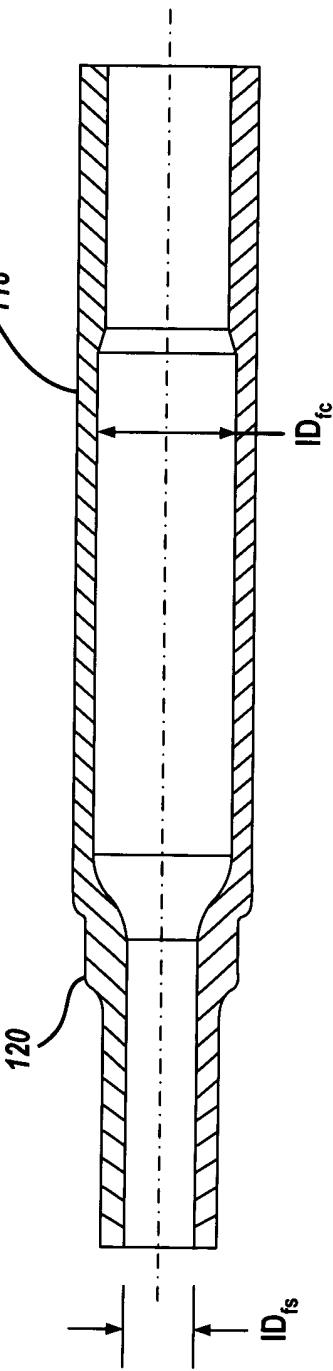
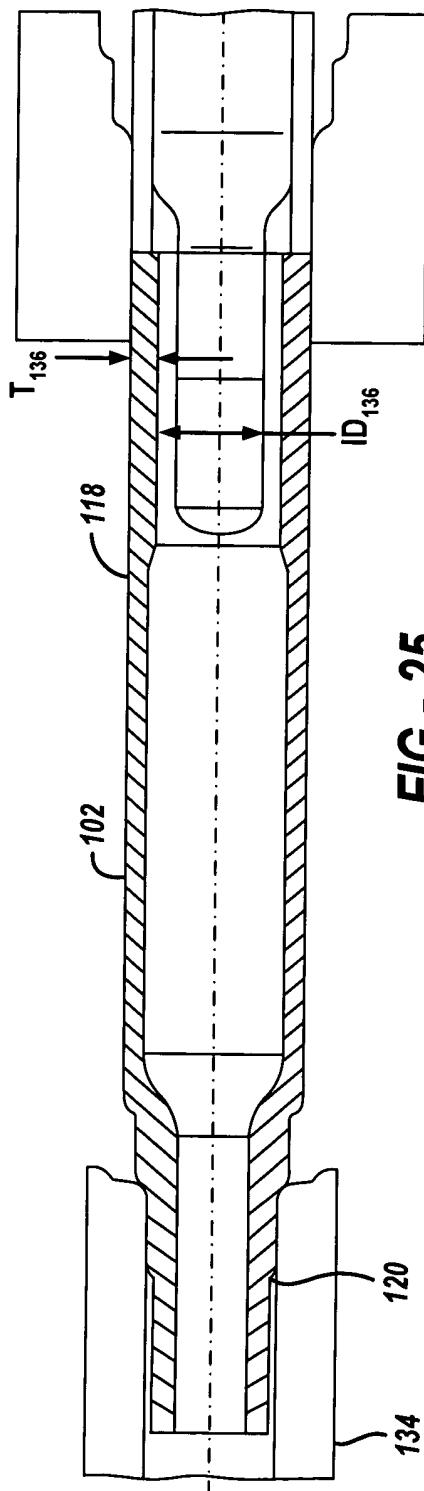


FIG - 25



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FORGING

1. CNC rotary swage a thick walled tube into a single piece, variable wall, near-net / net shaped axle tube housing blank. — 500

FIG - 27

WELDING

1. Press a weld flange (fine blanked with bolt holes) onto the axle tube housing blank and fusion weld in position. — 620
2. Position and locate remaining axle tube brackets (spring seat, shock mount, etc.) — 640
3. Straighten tube. — 660

MACHINING

1. Face spindle end of tube. — 680
2. Face and center rear end of tube (machining datum line is from rear centerline of tube and weld flange bolt holes). — 720
3. Turn spindle. — 740
4. Roll thread. — 800
5. Finish grind bearing and seal surface, and cut keyway. — 840
6. Wash, rustproof, package and ship. — 860